



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,227	06/09/2006	Son Nguyen-Kim	13111-00042-US1	1981
23416 7590 02/23/2010 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899				
EXAMINER				
NGUYEN, VU ANH				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
02/23/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,227

Applicant(s)

NGUYEN-KIM ET AL.

Examiner

Vu Nguyen

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 32-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/22C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date 06/09/2006

DETAILED ACTION

Claims 1-30 and 32-37 are pending in this application.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been received and made of record.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 1-4, 7, 10, 14, 15 and 22 are objected to because of the following informalities: A "wherein" should be inserted in the following place: at the end of line 11 in claim 1 and before "the component" in each of claims 2-4. In claim 7, line 4, the term "and" between "mono-" and "dialkylated" might have been inadvertently used in place of the term "or". Similar use of "and" is also found in line 5 of claim 10 between "C1-C30-alkanols" and "C1-C30-alkanediols". In claims 14 and 15, a comma and/or an "and" is

missing after "methacrylic acid". In claim 22, a comma should be inserted before the last "and". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-30 and 32-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. First, the phrase "obtainable by free radical polymerization" in claim 1 is indefinite as it is unclear whether copolymers obtained by other methods such as anionic polymerization are also encompassed. If only copolymer obtained by free radical polymerization is intended, then "obtainable" should be replaced with "obtained".

7. Second, each of claims 12, 13, 22 and 25 recites a broad limitation followed by a narrower limitation. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 12 recites the broad recitation "comprises", and the claim also recites "or consists of" which is the narrower statement of the range/limitation; claim 13 recites a broad range, followed by a "particularly preferably" range, which is followed by an even narrower range using the language "in particular". Similar issue is repeated in claim 22 and 25.

8. Third, claim 13 depends on claim 1 and recites components d) and e). These two components are not defined in either claim 1 or claim 13.

9. Finally, the phrase "monomer composition comprising methacrylic acid and N-vinylimidazole or N-(tert-butyl)aminoethyl (meth)acrylate" in claim 22 is confusing because it is unclear as to whether the monomer composition is (1) either a combination of methacrylic acid and N-vinylimidazole or a combination of methacrylic acid and N-(tert-butyl)aminoethyl (meth)acrylate or (2) either a combination of methacrylic acid and N-vinylimidazole or solely N-(tert-butyl)aminoethyl (meth)acrylate.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 4-6, 10, 11, 13, 23-30 and 32-37 are rejected under 35

U.S.C. 102(b) as being anticipated by Dausch et al. (WO02/38638). *Notes: US 7,015,294 B2 is being relied upon as an English equivalent of WO02/38638.*

12. Corresponding to the limitations set forth in these claims, Dausch et al. (Dausch, hereafter) discloses a copolymer and a cosmetic or pharmaceutical composition comprising the same. Said copolymer comprises 30-99 wt% of tert-butyl acrylate and/or tert-butyl methacrylate, 1-28 wt% of acrylic acid and/or methacrylic acid, and 0-60 wt% of at least a comonomer whose homopolymer has a T_g lower than 30°C (Abstract). Several of the prior art exemplary copolymers read on the claimed copolymer: t-BA(65)/MAA(20)/EA(5)/t-BAA(10) copolymers, t-BA(65)/MAA(15)/EA(10)/t-BAA(10) copolymers, and t-BA(50)/MAA(20)/EA(20)/t-BAA(10) copolymer (Table in col. 16-17). Note that t-BA stands for tert-butyl acrylate (corresponding to component a) in claim 1), MAA stands for methacrylic acid (corresponding to components b) and c1) in claim 1), EA stands for ethyl acrylate (corresponding to component e) in claim 10), and t-BAA stands for tert-butyl acrylamide (corresponding to component c2) in claim 1). These polymers anticipate the claimed copolymer for the following reasons. First, the polymers have a molar excess of the anionogenic MAA relative to the cationogenic t-BAA. Second, each polymer can be viewed as containing two portions of MAA: one of which (corresponding to component c1) of claim 1) has a molar ratio relative to t-BAA of about 1:1 and the remaining MAA makes up the other portion (corresponding to the component b) of claim 1). When the copolymer is used to prepare hair cosmetic composition, it is mixed with a hair setting polymer, which includes numerous

polyelectrolytes (col. 6, lines 60-67 to col. 7, lines 1-24). Such mixture reads on claim 23. The cosmetic or pharmaceutical composition further comprises a carrier which comprises water (col. 5, line 30) and numerous additives (col. 7, lines 25-35), such as surfactants, waxes, fats, emulsifiers, and others. The composition can be in the form of shampoos, creams, foams, sprays, gels, lotions or mousse (col. 5, lines 29-34). The limitations set forth in claims 28-30 are taught in col. 5, lines 10-46. The composition inherently includes material in solid dosage form since it can be in the form of a gel and is used to treat acne (col. 5, lines 25 & 33). The disclosed copolymer has the inherent function of a rheological modifier. Since the disclosed composition is also used for nose-strips (col. 5, line 25), it reads on claims 34-37 as nose-strips are normally paper-based.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 7, 8, 12, 14, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dausch et al. (WO02/38638). *Notes: US 7,015,294 B2 is being relied upon as an English equivalent of WO02/38638.*

16. Regarding the limitations set forth in these claims, the copolymer of claim 1 has been shown to be unpatentable over Dausch as discussed above. With respect to the ethyl methacrylate monomer recited in claim 12, Dausch teaches specific copolymers that contain ethyl acrylate but no examples of copolymers containing ethyl methacrylate. However, Dausch does implicitly teach that, as far as the comonomers are concerned, ethyl methacrylate can be used in place of the ethyl acrylate, though the latter is more preferred (col. 4, lines 45-50). Consequently, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed either ethyl acrylate or ethyl methacrylate to prepare the copolymers taught by Dausch since both of these monomers can be used interchangeably. Such modification does not go against the teachings of the prior art as long as at least one of the comonomers has the required T_g characteristics.

17. With regard to claims 7, 8, 14, 15 and 19, the difference between the prior art copolymer and the claimed copolymer is that Dausch teaches copolymer containing N-alkyl(meth)acrylamides but not the nitrogen-containing species recited in these claims. (Note that, as mentioned above, the prior art copolymer includes those having both tert-butyl acrylate and tert-butyl methacrylate as recited in claim 15). However, Dausch does teach that the disclosed method of preparing the copolymer is suitable for copolymers comprising such preferred monomers as N,N-di(m)ethylamino(m)ethyl (meth)acrylates

(col. 13, lines 34-64). Further, these species and others such as N-[3-dimethylamino) propyl](meth)acrylamide are listed together with N-tert-butyl acrylamide (which is the monomer employed in the exemplary copolymers) (col. 14, lines 29-48). Nowhere does Dausch teach against replacing the N-tert-butyl acrylamide with one of these cationogenic monomers. Consequently, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the prior art copolymer by not only using tert-butyl acrylamide as one of the comonomers but also other cationogenic monomers such as N,N-di(m)ethylamino(m)ethyl (meth)acrylates and N-[3-dimethylamino) propyl](meth)acrylamide as the comonomers, as long as one of the comonomers has the required T_g characteristics.

Allowable Subject Matter

18. Claims 3, 9, 16-18 and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if amended to overcome any objections and/or rejections under 35 U.S.C. 112 (2nd) as set forth above, and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796